REMARKS/ARGUMENTS

Claims 1-40 were pending. Upon entry of this amendment, amending claims 1, 2, 10, 23, 29, and 36, claims 1-40 remain pending. Claims 1-3, 5, 6, 9, 10, 12-15, 17-24, and 26-40 stand rejected under 35 U.S.C §102(e) as being anticipated by U.S. Patent No. 6,429,682 issued to Schultz et al. (hereinafter "Schultz"). Under 35 U.S.C §103(a), claim 4 stands rejected in view of Webopedia in further view of Schultz, claims 7-8 stand rejected over Schultz in view of U.S. Patent No. 7,020,598 issued to Jacobson (hereinafter "Jacobson"), and claims 16 and 25 stand rejected over Schultz in view of U.S. Patent No. 6,067,648 issued to Hunter et al. (hereinafter "Hunter"). Applicants aver that no new matter is added in this response.

§102/§103 Rejections

Claims 1, 23, 29, and 36

In the Office Action, the Examiner rejected claims 1-3, 5, 6, 9, 10, 12-15, 17-24, and 26-40 under 35 U.S.C §102(e) as being anticipated Schultz, and under 35 U.S.C §103(a) rejected claim 4 in view of Webopedia in further view of Schultz, rejected claims 7-8 over Schultz in view of Jacobson, and rejected claims 16 and 25 over Schultz in view of Hunter.

With regard to claims 1 and 23, in the Office Action, the Examiner states that Schultz discloses an I/O connection adapted to communicate and I/O value and having a configurable attribute, a configuration memory used to store a first attribute value used to configure the configurable attribute, a diagnostic interface used to communicate the I/O value, and a diagnostic controller having first mode used to communicate the I/O value between the I/O connection and the diagnostic interface and a second mode used to receive the first attribute value from the diagnostic interface and store the first attribute in memory to configure the configurable attribute, with regard to claim 29, the Examiner states that Schultz discloses receiving a diagnostic instruction from a diagnostic interface, communicating an I/O value when the diagnostic instruction is a first type, receiving an attribute value associated with an attribute of the I/O connection when the diagnostic instruction is of a second type, configuring the I/O connection pointing to columns 4-6, 8, and 22. In the Office Action, the Examiner states that

Webopedia discloses a core configuration memory adapted to store the second configurable attribute value, that Jacobson discloses a serial data connection adapted to receive a second I/O value of a second device and send the second I/O value to a third device, and that Hunter discloses a pulse generator. Applicants respectfully traverse the rejections.

Applicants submit that Schultz, Webopedia, Jacobson, and Hunter alone or in combination do not disclose all of the elements of claim 1, 23, 29, or 36. For example, amended claim 1 partially recites "an I/O connection having a plurality of independently configurable attributes...a configuration memory adapted to store a first attribute value that configures at least one configurable attribute from the plurality of configurable attributes", claim 23 as amended recites in part "an I/O connection that is reconfigurable with respect to a plurality of configurable attributes and adapted to communicate an I/O value...and a set of configurable attributes defining the function of the device and configuration of the I/O connection", claim 29 as amended recites in part "receiving an attribute value from a plurality of attribute vales associated with the attribute of the I/O connection from the diagnostic interface...wherein the I/O connection is configured from a first state to a second state in response to the attribute value", and claim 36 as amended partially recites "a diagnostic controller having a first mode adapted to communicate the I/O value between the I/O connection and the diagnostic interface and having a second mode adapted to send the configuration signal to the configuration controller, wherein the I/O connection is reconfigured in response to at least one of the device attributes".

Schultz discloses a configuration circuit that includes a JTAG interface circuit and a general interface circuit coupled to a configuration memory array via a bus interface circuit. The JTAG interface circuit is utilized for configuration and readback operations. The general interface circuit is also used for configuration and readback operations. The bus interface circuit includes a multiplexer that coordinates the communications between the bus interface circuit or the JTAG interface circuit, and a packet processor. During a configuration operation of the FPGA, configuration data is routed through dedicated configuration pins, the JTAG circuit, or the general interface circuit to the configuration memory. The configuration data is used to route logic signals through the IOBs to the CLBs using the interconnecting resources of the FPGA in accordance with the configuration data stored in the configuration memory. A configuration

state machine is used to coordinate communication between configuration registers and the configuration memory (see Schultz, Figure 4, and cols. 4-6, and 8)

Schultz does not disclose *an I/O connection having a plurality of independently configurable attributes* and a configuration memory adapted to store *attribute values that configure at least one configurable attribute of the plurality of configurable attributes of the I/O connection*, an I/O connection that i*s reconfigurable with respect to a plurality of configurable attributes* and adapted to communicate an I/O value and a set of configurable attributes defining the function of the device and *configuration of the I/O connection*, where an I/O connection is configured from a first state to a second state in response to an attribute value, and a diagnostic controller that has a first mode used to communicate an I/O value between an I/O connection and a diagnostic interface and a second mode used to communicate a configuration signal to configuration controller, where the I/O connection is reconfigured by a device attribute as claimed (emphasis added). On the contrary, Schultz discloses separate communication interfaces that are not reconfigurable with respect to plurality of I/O attributes according to attribute values, but rather are dedicated to a particular configuration such as JTAG interface, fixed pins, or dual purpose pins. A multiplexer 411 is used to select which interface to use. The configuration file does not change any attribute of the JTAG interface or general interface, but is used to route communication from the interfaces to the CLBs through the interconnect resources (see Schultz Figure 4-5, col. 8, line 18 through col. 9, line 53).

Webopedia discloses a general discussion of memory. Webopedia is an improper reference as that date of the reference is after the priority date of the application, however, even if Webopedia is applied, Applicants submit that Jacobson, Webopedia, and Hunter fail to make up for what Shultz lacks. For example, Jacobson discloses a diagnostic controller which allows a user to test multiple programmable devices over a network and Hunter discloses a programmable pulse generator. Therefore, as claims 1, 23, 29, and 36 disclose elements not disclosed by Schultz, Jacobson, Webopedia, and Hunter, taken alone or in combination, Applicants submit claims 1, 23, 29, and 36 are allowable.

Dependent claims 2-22, 24-28, 30-35, and 37-40

Claims 2-22 which depend from claim 1, and claims 24-28 which depend from claim 23, claims 30-35 which depend from claim 29, and claims 37-40 which depend from claim 36 are allowable for at least the reasons discussed in relation to claims 1, 23, 29, and 36, as well as the limitations they recite.

CONCLUSION

In view of the foregoing, Applicants believe all claims now pending in this Application are in condition for allowance. The issuance of a formal Notice of Allowance at an early date is respectfully requested.

If the Examiner believes a telephone conference would expedite prosecution of this application, please telephone the undersigned at 415-576-0200.

Respectfully submitted,

C. Bart Sullivan
Reg. No. 41,516

TOWNSEND and TOWNSEND and CREW LLP
Two Embarcadero Center, Eighth Floor
San Francisco, California 94111-3834
Tel: 415-576-0200
Fax: 415-576-0300
CBS:rgy
60828379 v1